



March 23, 2011

Mr. Phil Perry  
Compliance Branch Chief, Office of Air Quality  
Indiana Department of Environmental Management  
100 North Senate Ave.  
Indianapolis, IN 46204-2251

**Re: Indianapolis Power & Light Company (IPL)  
Petersburg Unit 1 (Source ID: 125-00002)  
Spring 2011 Outage**



Dear Mr. Perry:

Indianapolis Power & Light Company (IPL) will begin a regularly scheduled planned outage at the Petersburg Generating Station's Unit 1 on March 26, 2011. During this outage a number of activities will be performed. IPL does not believe any of these activities are modifications subject to the New Source Review (NSR) program but is submitting this letter and report in light of the uncertainty associated with the NSR program and as a necessary component for preserving a defense that only may be available if the data is submitted.

For NSR to apply, the emissions unit must undertake a "major modification;" that is, a physical or operational change that results in a significant net emissions increase. 326 IAC 2-2-2. Projects that are routine maintenance, repair and replacement are excluded from the definition of major modification irrespective of their impact on emissions. 326 IAC 2-2-1(dd).

While IPL believes this submission is not necessary to conclude NSR is inapplicable to these activities, IPL makes this submission because of the current uncertainty concerning the scope of the routine maintenance, repair and replacement exclusion, the applicable emissions test and the meaning of the “no reasonable possibility” standard. Therefore, to satisfy, if necessary, any pre-project submission requirement for the applicability of the baseline actual-to-projected-actual annual emissions test in the revised regulations, IPL submits a description of the activities to be performed during the planned outage on Petersburg Unit 1 (*see Attachment B*) and a description of emissions analyses that demonstrates that these activities would not be expected to result in a significant emissions increase or a significant net emissions increase of any NSR regulated pollutant (*see Attachment A*). Baseline actual emissions and projected actual emissions are included for the following NSR regulated pollutants: SO<sub>2</sub>; NO<sub>x</sub>; PM; PM<sub>10</sub>; CO; ozone (VOC); elemental lead; beryllium; mercury; fluorides; and sulfuric acid mist. TRS Compounds (including H<sub>2</sub>S) are assumed to be negligible due to oxidative environment in the combustion process and are therefore not included. Because NSR is not triggered for any other regulated pollutant, CO<sub>2</sub> emissions are not relevant to this analysis.

As described in the submission and based on the analyses performed with respect to these pollutants, IPL does not believe that any of these activities would be major modifications subject to NSR. We understand that the regulations do not require a response from IDEM as the result of this submittal. Should you have any questions regarding this submittal, please contact Angelique Oliger at (317) 261-5852.

Regards,

A handwritten signature in black ink, appearing to be 'A. Oliger', with a long horizontal line extending to the right.

Angelique Oliger  
Corporate Affairs, Environmental Coordinator  
Indianapolis Power & Light Company

cc: Vickie Cordell, IDEM  
Dan Hancock, IDEM  
Dwayne Burke, IPL  
Jeff Harter, IPL  
Byron Taylor, SA

enclosure

### Attachment A: IPL Petersburg Generating Station Unit 1 Emissions Analysis

\*\*\* INDIANAPOLIS POWER AND LIGHT - PETERSBURG - UNIT 1 \*\*\*

Capacity	2200 MMBTU/hour	Capacity Change	N
COAL		OIL	
Heat content	11367 BTU/lb	Heat content	139320 BTU/gal
Percent Sulfur	3.05 %	Percent Sulfur	0.36 %
Percent Ash	8.2 %		
ESP control efficiency	98.89		

POLLUTANT	PSD/ Emission Offset Major Modification Threshold , tons/year	Unit Potential to Emit, tons/year <sup>a</sup>	Baseline Actual Emissions, tons/year	Potential to Emit minus Baseline Actual <sup>b</sup> , tons/year	Future Projected Actual Emissions, tons/year	Future Projected Actual minus Baseline Actual, tons/year	Could have Accomodated Emissions <sup>c</sup> , tons/year	Net Emissions Increase <sup>d</sup> , tons/year
PM	25	385.80	353.35	32.44	323.90	-29.46	25.78	-55.24
PM-10	15	281.45	257.83	23.62	236.40	-21.43	18.78	-40.21
PM-2.5 <sup>a</sup>	5	215.87	197.74	18.13	181.29	-16.45	14.41	-30.86
SO2	40	57816.00	8011.05	49804.95	4471.91	-3539.14	8843.45	-12382.59
NOx	40	2967.01	2387.74	579.27	1769.67	-618.07	300.94	-919.00
VOC	40	25.43	23.30	2.13	21.36	-1.94	1.70	-3.63
CO	100	211.93	194.31	17.61	178.42	-15.90	14.03	-29.93
Lead	6.00E-01	1.04E-01	2.37E-02	8.07E-02	2.18E-02	-1.87E-03	1.68E-03	-3.55E-03
Beryllium	4.00E-04	2.89E-02	4.09E-04	2.85E-02	4.07E-04	-2.09E-06	2.85E-05	-3.06E-05
Mercury	1.00E-01	3.75E-02	3.43E-02	3.16E-03	3.15E-02	-2.87E-03	2.51E-03	-5.38E-03
Fluorides	3	63.58	58.22	5.36	39.60	-18.61	3.70	-22.32
H2SO4	7	27.79	25.45	2.34	23.32	-2.13	1.86	-3.99

**Notes:**

- a - Emission Offset Threshold - Marion County is currently nonattainment for PM2.5.
- b - for pollutants where the Potential to Emit minus the actual emissions baseline is < major modification threshold, future actual records are not required. (see 326 IAC 2-2-1(pp)(2)(B)).
- c - "Could have accomodated emissions" are calculated based on annual emissions summed from each calendar month as calculated by subtracting the actual emissions for the month from the maximum calendar monthly emissions for the five or ten year period. (see 326 IAC 2-2-1(pp)(2)(A)).
- d - Net emissions increase is the Future Projected actual emissions (adjusted for emisison that could have been accomodated prior to the project) minus the past actual emissions. For those pollutants where the value is less than the PSD major modification threshold and for which the PTE minus past actual value is not less than the major modifaication threshold, records must be kept to demonstrate, on an annual basis, that the future actual emissions are not greater than the Future Projected Actual Emissions (see 326 IAC 2-2-1(ii)).
- e - Potential to emit includes physical or operational limitations which are enforceable as a practical matter (see 326 IAC 2-2-2(iii)).

Attachment B: IPL Petersburg Unit 1  
2011 Spring Outage Work Summary  
March 26, 2011 thru June 5, 2011

1. Top Ash/Ash Tank/Bottom Ash/Safety (\$720K O&M)
  - a. Bottom ash system maintenance & repairs to ash evacuation system
  - b. Bottom ash pipe inspections and repairs
  - c. Top Ash system maintenance and repairs, piping, stones, valves and blowers
  - d. Repair ash sluice gates
  - e. Replace bottom ash hopper access door
  - f. Ash tank maintenance and repairs to casing, overflows, weir piping
  - g. Replace ash grinders
  - h. Inspect and repair/replace ash sluice pump (2)
  - i. Repair refractory in ash tank as needed
  - j. Replace drip shields
2. Boiler System/Furnace (\$1,000K O&M) – High Energy Piping (\$140K O&M)
  - a. Required/Insurance State Inspections
  - b. Superheat & Reheat header inspections, (penthouse) non-destructive examination (NDE)/Ultrasonic Testing (UT)
  - c. Full boiler scaffolding and inspections of furnace water walls and back pass area
  - d. Inspect and repair upper dead air space
  - e. Boiler Pressure Part inspection and replacement
  - f. Boiler fill, drain & vent valve repairs including all safety valves
  - g. High energy piping inspections including: UT/dye penetrate testing NDE, scaffolding & insulation
3. Boiler Air (\$200K O&M) - Boiler Valves (\$325K O&M)
  - a. Air Pre-heater (APH) wash and repairs
  - b. Fan damper inspections
  - c. Duct repairs
  - d. Duct stiffener repairs
  - e. Air & by-pass seal inspection & repairs
  - f. Install new air preheater wash header beam
  - g. Inspect & repair all non-return valves
  - h. Inspect & repair motor operated valves
  - i. Asbestos and insulation repairs and replacement
  - j. Valve packing
4. Boiler Fuel (\$1,476K O&M)
  - a. Coal feeder inspection and repairs: shafts, liners, drums, shear plates and feed pipes (5)
  - b. Coal nozzle, Air nozzle, SOFA & COFA inspection, replacement and repairs
  - c. Inspect linkages, drive units and couplings
  - d. Inspect, repair or replace Yaw Drive units
  - e. Pulverizer inspections and repairs (4)

- f. Pulverizer Overhaul (1)
  - g. Pulverizer gear box inspections
  - h. NDE main vertical shafts all units
  - i. Replace floor (grinding) sections (3)
  - j. Exhauster inspections (5) wheels, housings, riffle elements, bearing housings, converter heads and scrappers
- 5. Circulating Water (\$275K O&M) – Traveling Screens (\$220K O&M)
  - a. Circulating water pump discharge valve repairs
  - b. Circulating water pump discharge expansion joint replacement
  - c. Clean, de-mud, inspect and repair – screens, shafts, bearings, chains & drive units 1-1 and 1-2 traveling screens
  - d. Open & inspect circulating water lines from river intake to condenser water box
  - e. Replace flushing water lines to intake screens
- 6. Condensate System (\$150K O&M)
  - a. Condensate valve repairs
  - b. Polishing filter inspection
  - c. Piping repairs (O&M)
  - d. Condenser tube cleaning
  - e. Circulating water line inspections & repairs
  - f. Traveling Screen inspections
  - g. Seal water line inspection and repairs
- 7. Electrical (\$235K O&M)
  - a. Recondition of low and med-voltage breakers
  - b. 1-5 pulverizer motor recondition
  - c. 1-2 Boiler Feed Pump (BFP) motor recondition
  - d. Switch gear cleaning
  - e. General control cabinet cleaning
  - f. Normal motor cleaning and servicing
- 8. Environmental - Precipitator (\$900K O&M)
  - a. Inspection and repairs of Precip & Duct work
  - b. Precipitator wash
  - c. Overhaul rapper drive units
  - d. Clean high voltage bushings
  - e. Replace approx (4) side access doors (8) roof doors
  - f. Repair rapper sleeves & hammers
  - g. Repair Perf-plate and hardware
  - h. Complete structural inspection
  - i. Repair curtains and sneak baffles
  - j. Install supports under CP support beams
  - k. Collector plate alignment
- 9. Feedwater System (\$149K O&M)

- a. Valve inspections and repairs
  - b. Inspect & repair seal water injection valves
  - c. Feedwater heater inspections and repairs
  - d. Replace 2-4 feed water heater (FWH) vent line and valve
  - e. Install 2-1 BFP vibration monitor controls
10. Sootblower System (\$120K O&M)
- a. Inspection and sweep check of wall blowers
  - b. Replace sootblower sleeves and refractory
  - c. Repair or replace elbows and fittings in steam supply lines
11. Turbine / Generator Systems (\$5,200K O&M)
- a. Replace H2 seal oil pump
  - b. Repair & clean H2 coolers
  - c. Clean lube oil coolers
  - d. Change generator resin
  - e. Hydrogen vacuum pump replacement
  - f. Inspect & repair Fluid Drive Coupling
12. Misc (\$932K O&M)
- a. ID and FD fan repairs NDE
  - b. Asbestos Abatement
  - c. Lubricant & oil changes
  - d. Service Tech's and Engineering
  - e. Industrial cleaning
13. Scrubber/FGD (\$1,140K O&M)
- a. Cleaning (jetting, washing, vacuuming, etc)
  - b. Valve inspections & repairs
  - c. Reline slurry piping on 121-1 & 121-2 Recycle Pumps
  - d. Electrical Work
  - e. Booster fans, vanes, dampers, ductwork, etc
  - f. Penn Guard block repairs
14. CapEx Unit & FGD
- a. Turbine/Generator Mechanical (\$11,364K)
  - b. Boiler Tubes, Ignition Oil, & Coal Feeders (\$5,832K)
  - c. Controls – Boiler & Turbine (\$5,050K)
  - d. Electrical – ID Fan Motors, Switchgear, & Transformer Relays (\$1,541K)
  - e. APH & combustion air heater (CAH) Coils (\$1,457K)
  - f. Misc – Valves, piping, expansion joints, ductwork, insulation, etc (\$2,057K)

3-17-2011